

## ABSTRACT OF THE DISCLOSURE

When a communication is started through a control channel in a half-duplex communication compliant with the Recommendation V.34, the modem apparatus of the present invention demodulates reception symbols subjected to quadrature amplitude modulation and thereby finds their coordinates on a signal space diagram. Then, the modem apparatus calculates a cross product of two vectors from the origin to the coordinates of two consecutive symbols and identifies a control signal from a polarity array configured by polarities of the calculation result arrayed over a span of a plurality of consecutive symbols.

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